Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

VOL. 1. NO. 7. MARCH 31, 1904

THE JOURNAL OF PHILOSOPHY
PSYCHOLOGY AND SCIENTIFIC METHODS

RECENT PHILOSOPHICAL PROCEDURE WITH REFERENCE TO SCIENCE

NOW that philosophy and science are showing so commendable an interest in one another, the problem of their true relation in the system of knowledge is a question of considerable significance. Indeed, the general character of present-day philosophy is best defined in terms of its attitude to science. The true order of knowledge is always for a time distorted by the brilliant success of any special type of investigation. But the conquests of science are now an old story, and we of the present generation should be able to judge of the issue with sobriety and logical highmindedness. The philosophy of the day is, in its most enlightened moments, conscious of a call to the task of interpreting the scientific activity and its fruits, for the sake of the proper coordination of all human knowledge.

At the dawn of modern philosophy a newly emancipated and too sanguine reason proposed to know the whole of nature at once in terms of the Galilean mechanical physics. That which is profoundly characteristic of Descartes, Spinoza and Leibniz appears in its bare arrogance in the rationalistic naturalism of Hobbes. Philosophy is to be science swelled to world-proportions, simple, compact, conclusive and all-comprehensive. Philosophy proposes to do the work of science, but in its own grand manner. The last twenty years of Hobbes's life, spent in repeated discomfiture at the hands of Seth Ward, Wallis, Boyle and other scientific experts of the new Royal Society, certified conclusively to the failure of an *a priori* mechanical philosophy of nature. The experimental specialist thereupon took possession of the field of natural law. The epistemological investigations of the eighteenth century having made plain the dogmatism of the former *a priori* philosophy of nature, the idealist, in pursuance of the rationalistic motive, reconstructed nature to meet the demands of knowledge. There issued together with little mutual understanding and less sympathy, on the one hand positivism, or dogmatic experimentalism, and on the other absolutism, or dogmatic idealism. Hume, who consigned to the flames all thought save 'abstract reasoning concerning quantity or number,' and 'experimental reasoning concerning matter of fact and existence'; Comte, who assigned metaphysics to an immature stage in the development of human intelligence; and Tyndall who reduced the philosophical consciousness to an emotional experience of mystery, are typical of the one attitude. The other is well exhibited in Schelling's reference to 'the blind and thoughtless mode of investigating nature which has become generally established since the corruption of philosophy by Bacon, and of physics by Boyle.' Dogmatic experimentalism and dogmatic idealism signify more or less consistently the abstract isolation of the scientific and philosophical motives. And there is already a touch of quaintness in both of these attitudes. We of the present are in the habit of acknowledging the autonomy of science, and the unimpeachable validity of the results of experimental research in so far as they are sanctioned by the consensus of experts. But at the same time we recognize the definiteness of the task of science, and the validity of such reservations as may be made from a higher critical point of view. Science is to be transcended in so far as it is understood as a whole. Philosophy is critically empirical; empirical, because it regards all bona fide descriptions of experience as knowledge; critical, because attentive to the conditions of both general and special knowledge. In terms of a critical empiricism, so defined, it is the function of philosophy *to define and appraise the generating problem of science,* and so to determine the value assignable to natural laws in the whole system of knowledge.

Though this is the program of contemporary philosophy of science, it is not uniformly and consistently adopted. Were its truth more clearly recognized, we should not be under the necessity of challenging such relapses into an obsolescent manner of thought as appear in the writings of James Ward and Karl Pearson. A considerable portion of Ward's notable book is conceived in a manner worthy of Hobbes. Not satisfied with confuting the dogmatic positivist, and partly for the sake of confuting him, the author indulges in considerable riddling of the conceptions of science. The reader is encouraged to believe that with a little more dialectic, Professor Ward could overthrow the whole system of science. There is something almost of resentment in his tone, as though the foeman were not worthy of his steel. But, in truth, philosophy presents a very sorry figure when she attacks the conceptions of science in a hostile spirit. Not only is it presumptuous for the amateur to show the specialist the error of his ways, but also humorous for the study whose barrenness is somewhat notorious, to challenge the legitimacy of her neighbor's numerous and very healthy progeny. It is thus that philosophy from time to time waxes so sublime as to be ridiculous. 'Naturalism and Agnosticism' is a book of marked interest and value, but suffers from a radical defect in so far as it criticizes science negatively and not positively. For the philosopher there is properly no question of the truth or untruth of any scientific law or postulate, but only of the kind of truth that eventual consistency with other truth affords them. On the other hand, if anything could justify a vindictive and rancorous temper in philosophy, it would be Pearson's exhibition of the attitude of science. The 'Grammar of Science' contains a refutation of metaphysics in the superficial metaphysical manner peculiar to positivism. It is obvious that no conclusions can be drawn respecting the ultimate boundaries of knowledge, or the definition of all knowable reality in any exclusive terms, whether sensational or otherwise, without assuming the point of view and undertaking the problems of that historical discipline known as metaphysics. Were the positivist to think patiently about such problems, he might after considerable advancement come to an understanding of those metaphysical conceptions which he now overthrows with so light a heart. It is little short of amazing that he can deny in doctrine the validity of a question to which his very denial is an answer. Ward and Pearson furnish convenient illustrations of reactionary tendencies in contemporary philosophy of science. It is a question of some logical nicety which position is most untenable, that of the philosopher who refutes science in detail, or that of the scientist who refutes philosophy in general.

But how shall the specific function of philosophy be defined? Several possibilities may readily be excluded. In the first place, philosophy will not be all the sciences regarded as one science. Science tends to unify without any higher criticism. The various sciences already regard the one nature as their common object, and the one system of interdependent laws as their common achievement. The philosopher who tries to be all science at once fails ignominiously because he tries to replace the work of a specialist with the work of a dilettante; and if philosophy be identical with that body of truth accumulated and organized by the cooperative activity of scientific men, then philosophy is a name and there is no occasion for the existence of the philosopher as such. Secondly, philosophy will not be the aggregation of the sciences; for such would be a merely clerical work, and the philosopher would much better be regarded as non-existent than as a bookkeeper. Nor, thirdly, is philosophy an auxiliary discipline, that may be called upon in emergencies for the solution of some baffling problem of science. A problem defined by science must be solved in the scientific manner. Science will accept no aid from the gods when engaged in her own campaign, but will fight it out according to her own principles of warfare. And so long as science moves in her own plane, she can acknowledge no permanent barriers. There is then no need of any superscientific research that shall replace, or piece together, or extend the work of science.

But there still remains a chance of escaping the conviction of naturalism. He who attends only to a given type of object, *A*, may look everywhere and will see either nothing or objects of that type. His chance of seeing anything else depends upon the possibility of correcting his attention. Suppose him merely to become aware of his own attention in respect of its singleness and definiteness. His conclusion as to the exhaustiveness of his search must now depend upon the legitimacy of identifying his original attention to *A* with attention in general. And apparently that possibility is already precluded, for he has now become aware of an object other than *A*, viz., attention-to-*A*, the attention to which condemns his previous attention to exclusiveness and incompleteness. The logical self-consciousness has now been awakened, and there is no honorable way of putting it to sleep again. But precisely this is what has taken place in our account of the generating problem of science. To define science is to define a realm that is inclusive of science, the realm of active intellectual endeavor. One can not reflect upon science and assign it an end and a method proper to that end, without bringing into the field of knowledge a broader field of experience than the field proper to science, broader, at any rate, by the presence in it of the scientific activity itself. Here, then, is the field proper to philosophy. The scientist *qua* scientist is intent upon his own determinate enterprise. The philosopher comes into being as one who is interested in observing what it is that the scientist is so intently doing. In taking this interest he has accepted as a field for investigation that which he would designate as the totality of interests or the inclusive experience. He can carry out his intention of defining the scientific attitude only by standing outside it, and determining by means of nothing less than an exhaustive searching out of all attitudes. Philosophy is, to be sure, itself a definite activity and an attitude, but an attitude required by definition to be conscious of itself, and, if you please, conscious of its own consciousness until its attitude shall have embraced in its object the very principle of attitudes. Philosophy defines itself and all other human tasks and interests. None have furnished clearer justifications of philosophy than those men of scientific predilections who have claimed the title of agnostics. A good instance is furnished by Mach, who from some perversity chose to call his reflections 'anti-metaphysical.' 'Physical science,' he says, 'does not pretend to be a complete view of the world; it simply claims that it is working toward such a complete view in the future. The highest philosophy of the scientific investigator is precisely this toleration of an incomplete conception of the world, and the preference for it rather than an apparently perfect but inadequate conception.'[1] It is apparent that if one were to challenge such a statement the issue raised would at once be philosophical and not scientific. The problem here stated and answered requires for its solution the widest inclusiveness of view, and a peculiar interest in critical reflection and logical co-ordination.

But there is no little danger in such a logical approach to metaphysics. There are two types of error to which it has commonly led. In the first of these natural science is depreciated because its categories are not sufficiently ultimate, and reality is defined dialectically in terms of a supreme logical principle which ignores or annuls 'positive' knowledge. In the second case the category is condemned as such, because it is held to involve a *transformation* of reality. Both are transcendentalist philosophies, the former being the case of absolutism, the latter that of irrationalism. Professor Münsterberg's philosophy is a notable contemporary instance of the second type; and I offer a brief criticism of it for the sake of defining more clearly what seems to me to be a characteristic misconception, sufficient to vitiate an otherwise correct philosophical attitude to science.

In the 'Grundzüge der Psychologie' we are led by virtue of conscious attention to the deliberate transformations of science, to conceive of 'die reine Erfahrung,' the original realm of the appreciative practical attitudes of the will. The physical and psychical realm of natural science is held to be unreal because logical analysis discovers the purposive activity of the science to be more fundamental than its fruit. Moreover, in experience objects have their unity and individuality by virtue of their practical significance. In view of these facts, there is reason to conclude that will directed to ends is the determinative principle in reality, and so the most ultimate metaphysical category. But why on that account try to make reality out of it? Will as a principle, attitude or appreciation in general, may be legitimately arrived at in the progressive discovery of priority, but no one can remain in the contemplation of them and ever hope to say anything about reality. The most fundamental category, if taken alone, is just as abstract as any other category.

---

[1] 'Principles of Mechanics,' p. 464.

The conceptions that have been stripped away in the logical search for the central stem must be restored in the metaphysical construction. Hence it is the task of metaphysics in its search for reality, to show how space, and time, and physical and psychical objects, may belong to a reality that is fundamentally will. Professor Münsterberg has merely reasserted metaphysically the negations of logic. Reality is not spatial, temporal, physical or psychical, because these are transformations of reality. Reality is *that which* is so transformed. The scientific activity and its fruits are governed by logical necessity, but there is no evidence that reality is their native place. How is this any better than Schopenhauer's statement that the will gets itself objectified because it can not help it? To be sure, Professor Münsterberg tells us that the scientific transformation of reality is required by duty. But since duty can not here signify the compulsion of the individual will by the over-individual will, it can only mean the law of will in general. Then it is the proper problem of metaphysics to show how a world that is fundamentally will must be in some respects spatial, temporal, physical and psychical. Either the very program is a contradiction in terms, or it must mean that there can be no bare will, but only a world in which will is the determining conception. No noumenal world can ever generate a phenomenal world. Such a division can mean nothing unless that the phenomenal world is *true of* the noumenal world, but not exhaustively or fundamentally true of it. Science must be true of reality. It would possess a contradiction in its very heart if it were not so. It is not metaphysics to deny the reality of space and time, but to define their reality. No one has given a better definition of real time than has Professor Münsterberg himself in his account of it in the practical terms of irrevocableness, presence and expectancy. It is for metaphysics to reconcile this experience of time and the temporal order described by science. The whole difficulty seems to arise from the principle of transformation. Neither nature nor any other object of knowledge can be merely what is *made out* of reality. But nature may be abstract or partial truth. Science may well be an incomplete account of reality determined by considerations of a practical character. Reality will then stand in contrast to nature as the concrete to the abstract. Metaphysics must construct the reality that shall contain nature. Professor Münsterberg's error lies in conceiving reality to be experience prior to its transformation by science, rather than experience concrete and with compensation for the abstractness of science.

RALPH BARTON PERRY.

HARVARD UNIVERSITY.